

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application. Please cancel claims 38, 50, 51, 55, 67, and 68 without prejudice or disclaimer, and amend claims 37, 52–54, 69, 70, 72, and 75, as follows:

Claims 1-36 (Cancelled).

37. (Currently Amended) A system architecture resident on a computer-readable storage medium for managing a communication network comprising network equipment, said equipment having associated control interfaces, the architecture comprising:

a base layer for proxying said interfaces and for decoupling said interfaces from management functions, said base layer comprising distributed process executors to execute in a distributed manner processes concerning management of said network, each process executor comprising at least one of a workflow engine, a rule engine, and a combination thereof; and

a support layer superposed to said base layer and comprising a plurality of agents co-ordinating operation of said base layer in order to support distributed management functionalities,

wherein said distributed management functionalities include FCAPS (Fault, Configuration, Accounting, Performance, Security) functionalities,

wherein said agents are hosted on at least one machine, and said agents being movable among different machines, and

wherein said layers are adapted to perform respective functions based on
respective instruction information provided to them, and a database is provided for
storing said instruction information, the architecture being arranged for distributing said
instruction information from said database to said layers

~~wherein at least one of the process executors receives instruction information,
the at least one process executor being apt to modify its respective function based on
the received instruction information, thereby changing the operation sequence of the at
least one process executor and the base layer.~~

38. (Cancelled).

39. (Previously Presented) The architecture of claim 37, wherein said base layer comprises:

a sub-layer of protocol adapters for interfacing a set of network equipment offering a given protocol; and

a sub-layer of resource proxy modules, each said proxy module providing a representation of the configuration of given network equipment according to a defined information model.

40. (Previously Presented) The architecture of claim 39, wherein said resource proxy modules are configured for aligning said representation to the network of given network equipment by at least one operation selected from the group of:

performing all the management actions on said network by invoking operation through at least one associate protocol adapter;

receiving at said resource proxy modules all the notifications sent by said network equipment; and

performing a periodical verification of alignment between the representation of the network equipment and said network equipment.

41. (Previously Presented) The architecture of claim 40, wherein said resource proxy modules are configured for enrichment with element manager information.

42. (Previously Presented) The architecture of claim 40, wherein said resource proxy modules are configured for running processes using said process executors .

43. (Previously Presented) The architecture of claim 40, wherein said resource proxy modules are configured for interacting directly with one another in an interworking relationship.

44. (Previously Presented) The architecture of claim 37, wherein said agents in said community are configured for running vendor and technology independent services.

45. (Previously Presented) The architecture of claim 37, comprising at least one manager application configured for performing functions selected from the group of:

- managing distribution of processes between said base layer and said support layer;
- managing distribution of information models between said base layer and said support layer;
- monitoring the state of the architecture on the basis of information provided by said agents in said community;
- interacting with external systems; and
- executing management processes.

46. (Previously Presented) The architecture of claim 45, wherein said at least one manager application comprises a separated, additional upper layer in said architecture.

47. (Previously Presented) The architecture of claim 45, wherein said at least one manager application is at least partly integrated to said support layer.

48. (Previously Presented) The architecture of claim 37, wherein all said layers in said architecture include process executors.

49. (Previously Presented) The architecture of claim 48, wherein each of said process executors in each of said layers comprises at least one of a workflow engine, a rule engine and a combination thereof.

50. (Cancelled).

51. (Cancelled).

52. (Currently Amended) The architecture of claim ~~54~~ 37, wherein said instruction information comprises at least one of:

process definitions comprising at least one of workflows and rules; and
data model definitions.

53. (Currently Amended) The architecture of claim ~~54~~ 37, comprising at least one manager application configured for managing distribution of information models between said base layer and said support layer, said ~~data base~~ database being associated with said at least one manager application.

54. (Currently Amended) A method of managing a communication network comprising network equipment, said equipment having associated control interfaces, the method comprising the steps of:

providing a base layer proxying said interfaces and decoupling said interfaces from management functions;

executing, in said base layer, distributed processes concerning management of said network, each of said processes comprising at least one of workflows, rules, and combination thereof;

supporting distributed management functionalities via a support layer superposed to said base layer and comprising a plurality of agents co-ordinating operation of said base layer;

including FCAPS (Fault, Configuration, Accounting, Performance, Security)
functionalities as said distributed management functionalities;

hosting at least part of said agents on different machines;

moving said agents among different machines;

receiving instruction information; and

performing in each of said layers, functions based on said instruction information;

providing a database for storing said instruction information for each of said
layers;

distributing said instruction information from said database to each respective
layer; and

modifying at least one of the distributed processes based on the said instruction information, such that ~~an operation sequence~~ a function of the at least one distributed process is changed.

55. (Cancelled).

56. (Previously Presented) The method of claim 54, further comprising the steps of:

providing a sub-layer of protocol adapters for interfacing a set of network equipment offering a given protocol; and

providing a sub-layer of resource proxy modules, each said proxy module providing a representation of the configuration of given network equipment according to a defined information model.

57. (Previously Presented) The method of claim 56, further comprising the step of configuring said resource proxy modules for aligning said representation to the network of a given network equipment by at least one operation selected from the group of:

performing all the management actions of said network by invoking operation through at least one associated protocol adapter;

receiving at said resource proxy modules all the notifications sent by said network equipment; and

performing a periodical verification of alignment between the representation of the network equipment and said network equipment.

58. (Previously Presented) The method of claim 57, further comprising the step of configuring said resource proxy modules for enrichment with element manager information.

59. (Previously Presented) The method of claim 56, further comprising the step of configuring said resource proxy modules for running processes using a process executor.

60. (Previously Presented) The method of claim 56, further comprising the step of configuring said resource proxy modules for interacting directly with one another in an inter-working relationship.

61. (Previously Presented) The method of claim 54, further comprising the step of configuring said agents in said community for running vendor and the technology independent services.

62. (Previously Presented) The method of claim 54, further comprising the steps of providing at least one manager application for performing steps selected from the group of:

managing distribution of processes between said base layer and said support layer;

managing distribution of information models between said base layer and said support layer;

monitoring the state of said layers on the basis of information provided by said agents in said community;

interacting with external systems; and

executing management processes.

63. (Previously Presented) The method of claim 62, further comprising the step of configuring said at least one manager application as a separated upper layer in addition to said base proxying layer and said support layer.

64. (Previously Presented) The method of claim 62, further comprising the step of at least partly integrating to said support layer said at least one manager application.

65. (Previously Presented) The method of claim 54, further comprising the step of providing process executors in all said layers.

66. (Previously Presented) The method of claim 65, further comprising the step of providing in said process executors at least one of a workflow engine, a rule engine, and combinations thereof.

67. (Cancelled).

68. (Cancelled).

69. (Currently Amended) The method of claim ~~68~~ 54, further comprising the step of providing in said instruction information at least one of:

process definitions comprising at least one of workflows and rules, and
data model definitions.

70. (Currently Amended) The method of claim ~~68~~ 54, further comprising the steps of:

providing at least one manager application configured for managing distribution of information models between said base layer and said support layer; and
associating said ~~data-base~~ database with said at least one manager application.

71. (Cancelled).

72. (Currently Amended) A computer program product resident on a computer-readable medium for storing instructions for execution by a processor, the instructions when executed by a processor performing a method of managing a communication network comprising network equipment, said equipment having associated control interfaces, the method comprising:

providing a base layer proxying said interfaces and decoupling said interfaces from management functions;

executing, in said base layer, distributed processes concerning management of said network, each of said processes comprising at least one of workflows, rules, and a combination thereof;

supporting distributed management functionalities via a support layer superposed to said base layer and comprising a plurality of agents co-ordinating operation of said base layer;

providing a database for storing said instruction information for each of said layers;

distributing said instruction information from said database to each respective layer; and

receiving instruction information in each of said layers; and
performing in each of said layers, functions based on said instruction information
~~modifying at least one of the processes based on the instruction information,~~
~~such that an operation sequence of the at least one process is changed.~~

73. (Previously Presented) The architecture of claim 39, wherein said resource proxy modules can support FCAPS (Fault, Configuration, Accounting, Performance, Security) functionalities.

74. (Previously Presented) The method of claim 54, further comprising supporting FCAPS (Fault, Configuration, Accounting, Performance, Security) functionalities via said resource proxy modules.

75. (Currently Amended) A system comprising:
a network including network equipment, and

a management system architecture according to any one of claims 37, 39–49,
52, 53, and 73 for managing said network.